CASES OF

VESICO-VAGINAL FISTULA.

BY GEO. HAYWARD, M.D.

CASES OF

VESICO-VAGINAL FISTULA,

TREATED BY OPERATION.

BY GEO. HAYWARD, M.D.

From the Boston Medical and Surgical Journal.

BOSTON:
PRINTED BY DAVID CLAPP.....184 WASHINGTON STREET.
1851.

CASES OF VESICO-VAGINAL FISTULA.

The following cases are all in which I have performed an operation for vesico-vaginal fistula. It was done in every instance by ligature. The result has, on the whole, been satisfactory. Anything that is calculated to remove this infirmity, or to lessen in the slightest degree the sufferings of the individuals who are afflicted with it, should be made known.

On this account I propose to state at some length my experience on the subject, and, at the risk of being tedious, to give in detail the particulars of each case, and the method I pursued with a view of removing the difficulty.

I had never seen the operation done, till I did it myself, nor could I find any description of the mode which others had adopted, that was sufficiently clear and explicit to be of much service. I had, therefore, to take such a course as I thought safe, and at the same time likely to effect the object, viz., the closure of the fissure. I do not know that others may not have operated precisely in the same way; but if they have, I am not aware of it.

I have reason to be satisfied with the result; the success of my operations has, I believe, been much greater than the average. Whether this is to be attributed to the mode of operating or the favorable nature of the cases, I shall not undertake to decide.

I have performed the operation twenty times, but it was done on nine patients only—one being operated on six times, another five, two twice, and five once. In three cases the operation was entirely successful; in five the patient obtained great relief, so that the urine could be retained for a number of hours without any escape through the fistulous opening; and in the remaining two, no benefit was derived from it.

The first operation was performed on the 10th of May, 1839, and an account of it was published in August of the same year at Philadelphia, in the American Journal of Medical Sciences. This is here re-

printed; and those that I have since treated, which are given in the order in which they occurred, are now published for the first time.

Case I.—(From the American Journal of Medical Sciences.)—*Case of Vesico-vaginal Fistula successfully treated by an Operation.*—A preternatural opening between the bladder and vagina, known by the name of vesico-vaginal fistula, is one of the most distressing accidents to which females are liable. Its most common cause is protracted labor, in which the head of the child has been allowed to press for a great length of time on the bladder, when that organ is distended with urine. Gangrenous inflammation is in this way produced; a slough forms, which separates in a few days after delivery, and through the opening thus made, the urine is destined to pass, in most of these cases, during the residue of the patient's miserable existence.

Though this is, without doubt, by far the most common cause of vesico-vaginal fistula, it may occasionally be produced in other ways. It may be the result of a careless use of instruments in the delivery of the child; as when the bladder has been torn by a crotchet; or it may arise from an abscess, a stone in the bladder, or a disease of that organ.

Whatever may be the cause of the fistula, the consequence is, in the majority of cases, of the most afflictive kind, not only because all the urine passes through this new opening, but because the patient has no power of retaining it; she is rendered miserable by the excoriation and soreness that are thus produced, and loathsome to herself by the fetor of the urine. So wretched is the condition of patients of this class, that the language which Dieffenbach applies to them, can hardly be thought to be exaggerated. "Such unhappy beings," he says, "are forced to exclude themselves from society; the very atmosphere surrounding them is polluted by their presence, and even their children shun them; thus rendered miserable, both morally and physically, they yield themselves a prey to apathy; or a pious resignation alone saves them from self-destruction."

The degree of suffering, however, is not the same in all cases; the difference arises from the part of the bladder in which the fistulous opening is situated. When it is high up, the patient has some power of retention, but even then the urine escapes through the opening, when any considerable quantity accumulates in the bladder. But if the fistula is lower down, at the place where it is usually found, about an inch to an inch and a half from the opening of the urethra, the retentive power is almost if not altogether lost, the urine flowing off as fast as it is deposited by the ureters.

So great have been the inconvenience and suffering to which patients of this class have been subjected, that the attention of surgeons has long been directed to this formidable trouble, but it is not till within the last twenty years that any operation for its radical cure has been successfully performed. It is only ten years since, that Mr. Henry Earl remarked, "It must be confessed, that under the most favorable circumstances, these cases present the greatest obstacles, and are certainly the most difficult that occur in surgery." He succeeded, however, in perfectly restoring three such cases; "in one of which," he says, "I performed upwards of thirty operations before success crowned my efforts."

The obstacles to success are numerous and must be apparent. The narrow space in which the operation is to be performed, the disposition of the urine to pass between the lips of the wound, the proximity of the ureters, the great secretion of mucus by the inner coat of the bladder, which is well calculated to interfere with the union of the parts, and the want of readiness with which mucous surfaces take on adhesive inflammation, are all very likely to defeat almost any operation, however well it may be done.

Several modes have been devised of operating for the radical cure of the vesico-vaginal fistula. Dupuytren recommended, where the opening was small, the application of the actual cautery; in his hands it is said to have occasionally succeeded, but with other surgeons it has almost uniformly failed. The objections to it are numerous, and to my mind, decisive. It is not easily applied; it is difficult, and sometimes impossible, to limit its action, and if this be not done, the orifice is enlarged, instead of being closed, and the trouble of course aggravated.

When there is a laceration only of the bladder, without loss of substance, union, it is said, has sometimes been effected, by keeping a catheter in the bladder, and thus preventing the flow of urine through the wound. But cases of this kind are rarely so favorable, as they usually arise from a sloughing of the organ, followed by a loss of a portion of its parietes. In these cases it has been preferred to use the ligature, the edges of the opening being previously pared. In a few instances this operation has succeeded; in many it has failed, and in some cases it has been productive of inflammation, which terminated in death. For these reasons, as well as because I am not aware that the operation has ever before been successfully done in this country, I shall give the history of the case and the mode of operating at some length.

Case.—A married lady, ætat. 34, and of good health, consulted me on account of a vesico-vaginal fistula. Fifteen years ago, she was deliv-

ered, by means of instruments, of her first child, which was dead, after having been in labor three days, during all of which time she passed no water. About ten days after her delivery an opening formed between the bladder and vagina, and since that period she has lost the retentive power of the bladder, and all the urine has escaped through the opening, except when a catheter has been introduced. Occasionally when in a horizontal posture there would be no escape of urine for two or three hours, though usually there was a continuous flow ; but when in an erect position it was constantly dribbling, causing great inconvenience and distress. She had been eleven times pregnant since the accident, but had never gone her full period since the birth of her first child. It is not improbable that the fistula might have had some influence in the production of these repeated abortions.

The only attempts that had been made to relieve her, consisted in the introduction of a catheter, which she wore for a considerable length of time, and touching the edges of the opening with caustic. Neither of these means afforded any relief; of late nothing had been done, and she regarded her case as almost hopeless.

Upon examination, I found the fistula situated from an inch and a quarter to an inch and a third behind the urethra, a little on the left side. It was not large, barely sufficient to admit the end of my forefinger, and surrounded by a hardened edge, nearly of the consistence of cartilage. There was some degree of morbid sensibility in the lining membrane of the vagina, so that an examination was quite painful.

I told her that an operation for the difficulty had been several times successful ; that it had more frequently failed, and that in a few instances it had been followed by very serious consequences. At the same time, I regarded her case on the whole as a favorable one, and if, after this explanation, she wished for an operation, I would cheerfully undertake it. She at once consented, and it was fixed for the next day but one, May 10th, 1839, when it was performed in the following manner, in the presence of my friends Drs. Channing, C. G. Putnam and J. B. S. Jackson.

The patient was placed on the edge of a table, in the same position as in the operation for lithotomy. The parts being well dilated, I introduced a large bougie into the urethra and carried it back as far as the fistula. In this way I was able to bring the bladder downwards and forwards, so that the opening was brought fairly into view. The bougie being then taken by an assistant, I made a rapid incision with a scalpel around the fistula, about a line from its edges, and then removed the whole circumference of the orifice. As soon as the bleeding, which was

slight, had ceased, I dissected up the membrane of the vagina from the bladder all around the opening, to the extent of about three lines. This was done partly with the view of increasing the chance of union, by presenting a larger surface, and partly to prevent the necessity of carrying the needles through the bladder. I then introduced a needle, about a third of an inch from the edge of the wound, through the membrane of the vagina and the cellular membrane beneath, and brought it out at the opposite side at about an equal distance. Before the needle was drawn through, a second and a third were introduced in the same way, and these being found sufficient to close the orifice, they were carried through, and the threads tightly tied. Each thread was left about three inches in length. I should have remarked that I found no difficulty in introducing the needles by the hand, the fistulous opening having been brought so low down and so fairly in view.

A short silver catheter, constructed for the purpose, was then introduced into the bladder, and the patient was conveyed to the bed and laid on her right side, to prevent any urine from coming in contact with the wound. I found her in the evening, eight hours after the operation, quite comfortable. She had had some smarting for two or three hours, but this was soon gone; she complained a little of the catheter; all the water flowed through it and was received upon cloths. She was directed to live on thin arrow-root, milk and water, and a solution of gum Arabic.

In the morning I removed the catheter, lest it might became obstructed, and after cleansing replaced it. No water had escaped through the wound. The patient had slept some in the night; her pain had been slight, and all her sufferings she referred to the instrument. Her pulse was good, and she had no febrile symptoms. She was directed to keep in the same position, to live on the same diet, and take a solution of salts early the next morning.

She went on perfectly well for five days, the catheter being removed daily. At this time I examined her by means of a speculum. I found that the stitches were quite firm, and that the wound had apparently healed in its whole extent. There was no oozing of water through it, though she was then lying on her back, and there was urine in the bladder, as it flowed through the catheter as soon as I introduced it. I then cut away the stitches, which I found by no means easy, as I was afraid to bring down the bladder as was done in the operation, lest the wound might be torn open. The stitches, however, were at length safely removed, and in doing this I was much indebted to the assistance of my friend Dr. Putnam.

A smaller catheter was now introduced, and the patient put to bed in the same position as before. She continued very comfortable for two days, much more so than she had been at any time before, which she attributed to the size of the instrument. I then removed the catheter altogether, and directed her to introduce it every three hours, so as to prevent any accumulation of urine. This she did till the second night, when she slept quietly for seven hours, and on waking felt no inconvenience. Twice, also, during this period she passed water by the efforts of the bladder alone, so that the organ had already regained in part its expulsive power, as well as that of retention. She now sat up, introduced the instrument less frequently, and was allowed a more generous diet.

At the end of seventeen days from the operation, I examined her again; the wound was entirely healed and apparently firm, and the soreness nearly gone. I advised her to introduce the catheter two or three times a-day for some weeks; and on the following day she returned home by water, a distance of nearly two hundred miles.

Everything connected with this case proved more favorable than I had anticipated. The operation was not difficult, nor very painful; it was followed by no bad consequences, and afforded complete relief. Perhaps the mode in which it was done, may have contributed something to the successful result. No violence was done to the parts by drawing down with hooks the fistulous opening, as in the common mode, nor was the bladder wounded by carrying the needles through it, which I presume is the usual practice. I do not speak with certainty on this point, for I cannot find that any one has given a precise description of the mode in which the operation is to be performed. It may be inferred from the following remark of Dieffenbach, that he carried the needles through the bladder. "It is enough to say," he remarks, "that the operation is always a dangerous one, chiefly on account of the injury done to the bladder; the suture always producing more or less inflammation of the edges of the fistulous opening, or of the surrounding parts." Now it seems to me that in almost every case in which the ligature would be the proper mode of operating, the edges of the bladder can be brought in contact, without wounding that organ. The chance of adhesion would be much greater, and the danger of inflammation incomparably less. By dissecting up the membrane of the vagina to a considerable extent around the orifice, and carrying the needles through this at some distance from the edge of the wound, I cannot doubt that the edges of the bladder, which, of course, should be previously pared, may in almost every case be brought into close contact.

This, of course, cannot be done where there is great loss of substance, but in such cases the ligature would not alone be sufficient, and some attempts have recently been made to treat them by the plastic method. "This operation consisted," says Blandin, "in paring the edges of the fistulous orifice, and adapting over it an oval flap derived from the internal surface of the large labia." This operation, according to the British and Foreign Medical Review, has been performed with some success by M. Jobert. In one instance, "much inconvenience was experienced from the after growth of hair in the transplanted flap."

I have ventured to make these suggestions, which I do with great diffidence, with regard to the mode of operating, because there is no case in surgery in which a successful operation gives more complete relief than in that of vesico-vaginal fistula, or relieves a greater amount of wretchedness, and because it is by no means well settled what is the best mode of treating this distressing infirmity. The attention of so many enlightened surgeons being now directed to the subject, gives reason to hope that an effectual remedy will be found for this deplorable malady.

Boston, June, 1839.

Case II.—The patient in this case was a married lady, between 30 and 40 years of age. She came more than 1000 miles, and placed herself under my care in August, 1840. She was the mother of several children. Her last labor was protracted; instruments were used; the bladder was injured, so that extensive sloughing took place soon after, and all the urine escaped through the preternatural opening. No means that had been adopted, had had the slightest effect in controlling the continual flow of water, and the consequence was that her limbs, from the upper part of the thighs to the knees, were inflamed, excoriated and extremely sensitive. Under these circumstances, she made the journey with the greatest difficulty, but so loathsome to her was her condition, that she was ready to make any sacrifice, if by so doing she had the least chance of relief.

I found it very difficult to make an examination, owing to the exquisite sensibility of the parts. I succeeded at length, and ascertained that a large portion of the bladder had sloughed off, so that in fact there was no receptacle for the urine. I told her that I considered the case very unfavorable for any operation, and that the prospect of benefiting her was almost hopeless. She replied that her life was a burden to her as it was; that she would take any chance, however small, and incur the greatest risk rather than remain in her present condition.

I did not hesitate, therefore, to operate. With some difficulty I succeeded in paring the edges of the bladder, and dissecting up, to a small extent, the external covering of that organ. Three stitches were passed through the outer coat that was raised in this way, and the edges of the fistula were brought in contact, when the threads were tied. The whole operation was more painful, and the sufferings of the patient more severe afterwards, than in the preceding case. This was attributable in great measure to the extensive excoriation and consequent sensibility of the parts concerned. No unpleasant symptom, however, occurred; and on examination a few days after the operation, I found that union had taken place in the centre, leaving a fistulous opening on each side. The stitches being loose, were removed.

The after-treatment, I should have remarked, as to diet, position, and introduction of the catheter, was similar to that adopted in the case of the first patient. After an interval of a month I operated on each of these openings, and at the expiration of another month I operated for the third time. Something was gained by each operation. The patient was then obliged to return home. Her condition was much improved; at the same time I was confident more could be gained by further operations.

She could now retain the urine for two or three hours, and remain in an upright position and even walk for that length of time without its escape. In consequence of this power of retention, the excoriation of the limbs ceased almost entirely, and her general health was essentially improved.

She visited me again in the spring of 1842, and made the journey with much less inconvenience than on the former visit.

The fistulous openings had contracted since my last examination, and I was satisfied that further attempts should be made to improve her condition. Three more operations, therefore, were done in April, May and June, 1842. The gain from each was very apparent. The orifices were diminished; urine could be retained for a much longer time, and the contractile and expulsive power of the bladder was to some extent restored. She returned home in the autumn of the same year, and I have not seen her since, nor heard from her within the last few years. The latest accounts that I had, were that her improvement had been gradual but constant; the excoriation was gone; her general health good; that she could walk and ride on horseback without inconvenience, and that she had given birth to one or more children since her return. Her condition was entirely changed; life was no longer burdensome, and she was rendered by these operations a happy and useful member of society.

Case III.—The patient in this case came under my care in December, 1840. She was a young married woman, of 22 years of age, and the fistula occurred about a year before, after her first labor, which was protracted and severe. Her sufferings at the time I saw her were great, and her nervous system was very much disturbed. At the same time I was led to think, upon examining the parts, that an operation would afford her relief. I formed this opinion from the size and situation of the fissure. An operation was accordingly done, and in a manner similar to those described in the preceding cases. No untoward symptom occurred; the urine flowed through the catheter, which was daily removed, and after what was thought to be a sufficient length of time, an examination was made. Adhesion seemed to have taken place along the whole extent of the fistula, and the stitches were accordingly cut away.

On the following day, however, the urine passed freely through the fissure, and the opening was as large as before the operation. I was inclined to think, at the time, that the removal of the stitches might have had some effect in producing this unfavorable result. It was impossible to get at them without bringing down the bladder to some extent, and of course causing a strain upon the newly-formed parts. This might have been sufficient to rupture them, for it is well known that they do not for a long time acquire the strength of the original texture.

It was my wish to have made at least one other attempt for the relief of the patient. But she was nearly 300 miles from home, and the season of the year and her domestic duties made her anxious to return to her friends. When she left, she spoke of coming back in the spring and submitting to another operation. She did not, nor have I heard from her since. It is not probable that any improvement has taken place in her condition; it was not improved by anything that was done for her here; at the same time, the infirmity was not increased by the attempts made to remove it.

Case IV.—The circumstances of this case were very similar to those of the preceding one. The patient was a young married woman of about the same age; her trouble followed her first and only confinement, coming on in the same way, and the fistulous opening resembling that of the preceding one in its size and situation. She resided at a distance of 20 miles, and came under my care in October, 1842. I should have felt great confidence in the success of an operation in this case, had not the preceding one resulted so unfavorably.

I however advised its performance, and it was cheerfully submitted

to. Everything promised well for a few days after, and on examining the parts, at the usual time, with a view of removing the stitches, a firm adhesion seemed to have taken place along the whole extent of the fissure. I felt confident of success. In attempting, however, to bring the bladder a little lower down, in order to cut the threads, the adhesive matter which had been poured out and united the pared edges of the fistula suddenly gave way, leaving the opening as large as it was before any attempts had been made to close it.

Whether the parts would have remained united if the bladder had not been thus put upon the stretch, it is impossible to say; at the same time there could be no doubt that it was the immediate cause of the separation, and confirmed me in the suspicion which I had in the previous case as to the effect of straining the bladder in the attempt to remove the stitches.

At any rate I was determined to pursue a somewhat different course, if I should have an opportunity of performing similar operations hereafter. I should have been glad to have made another trial on this patient; but she evidently had no confidence in a successful result, and therefore returned home, being very much in the same condition that she was when she came.

Case V.—In this case, as well as in all the others in which I have operated since, I did not attempt to remove the stitches, but allowed them to remain till separated by the process of ulceration. The ligature employed is what is called dentists' silk of a single thread, and is carried only through the outer coat of the bladder. The size of the ligature, and allowing it to remain till separated by the efforts of nature, I regard as a great improvement, and well calculated to have a favorable influence on the result of the operation.

The patient in this case came about 1200 miles in the hope of obtaining some relief; not finding convenient lodgings, she resolved to take a private room in the Massachusetts General Hospital. The particulars of her case while in that institution are copied from the records drawn up at the time by the House Surgeon, and are here given.

Sept. 15th, 1843.—A. B., wife, 23 years of age. Patient reports that five years and five months ago was delivered of first child; was in labor four days, and delivered without instruments. Two weeks after delivery upper wall of vagina sloughed, leaving a transverse opening into bladder an inch behind meatus urinarius, and about two inches in length. Now, in consequence of having worn a catheter for a long time, the opening is reduced to the size of the end of a man's finger.

Cannot retain urine except when perfectly quiet, and then for a very short time. General health very indifferent.

23d.—Suffered much pain from examination, and has been quite sick since. Vagina very irritable.

Oct. 7th.—Patient reports is subject to sick headaches. Has one to-day. No dejection for two or three days.

12th.—Some cough and pain in chest. In evening worse, with bad cough and sharp pain in left side. Blister ordered, but not applied, from unwillingness of patient.

13th.—Better; up and dressed. Some cough, and pain in chest.

15th.—Bowels open, cough better. At 9, A. M., to-morrow (before operation), R. Tr. opii, gtts. lxxv.

16th.—*Operation.* Patient was placed upon a table as in the operation for lithotomy, except the tying of the hands. An elastic staff was passed through the urethra, and the neck of the bladder being brought down, a transverse fissure half an inch in length was disclosed at an inch and a half behind meatus urinarius. The edges of this were carefully pared with curved scissors and a narrow-pointed knife, and brought together by two stitches, with two small moveable needles inserted into a long staff. A large female catheter was then passed and secured in situ. Patient having been removed to bed, was directed to lie on right side. Liquid farinaceous diet.

17th.—Slept three or four hours at night. Tolerably comfortable this morning. Took some arrow-root with relish.

18th.—Took, last night, Op. pulv., gr. jss.; camph., gr. v. M., in two doses, with an hour's interval, and had applied to region of bladder poppy fomentations, with relief of pain. This morning in great pain. Slept some in night. Principal trouble is a great sense of burning in vagina. Some nausea.

19th.—Suffers much pain. Took last night opii pulv., gr. ij.; camph., gr. vj. M., in two doses, and slept but little afterwards; now, tongue coated. Head, back and hips ache; complains of constant heat. Pulse 122.

20th.—Better this morning. Still in great pain. Took opiate last night as before, and slept some. Less burning pain.

21st.—Pain and burning continue; slept but little; pulse 100.

22d.—Appears much better this morning. Catheter was removed by patient, and returned by surgeon in the evening. Pulse 92. R. Tr. opii, pro re nata.

24th.—Sitting up this morning. Feels quite bright. Went without catheter all day yesterday; was able to retain urine for an hour or two.

Upon assuming an upright position, water passed through meatus, and by report of patient none through fistula.

26th.—Has not for two days worn catheter. Able to retain urine, but not to expel it. Suffered some pain last night in bladder.

29th.—This morning in considerable pain. Much smarting and burning in bladder. Stitches still remain in wound. Tr. opii, gtts. 50.

30th.—Suffered great pain last night from inflammation of bladder. Urine thick and mixed with mucus. Pulse 88, and stronger than usual. R. Ammon. liq. acet., ʒ j. ; spts. nit. æth., ʒ j. M. ʒ j. every two hours. Warm bath.

31st.—Still in great pain.

Nov. 4th.—Not so well this morning. Catamenia came on yesterday. Always suffers great pain during access. Is able to be all night upon a dry sheet, and to pass, with some effort, nearly a pint of water in the morning.

5th.—Rather easier this morning. Bowels open.

6th.—Better.

17th.—Fistula entirely closed. Is troubled at times with irritability of bladder. Has not yet gained control over meatus ; but is not obliged to use catheter at all. Rides out every pleasant day. Reports comfortable.

18th.—Attacked with severe pain and bearing down yesterday P. M., which produced great suffering. Took, in course of night, three pills, each containing op., gr. j. ; camph., grs. iij. M. Slept none in night. Rather easier this morning.

19th.—Feels much better this morning. Pain nearly all gone.

26th.—Remains well. Walks and rides out daily.

27th.—Discharged, well.

Feb. 19th, 1844.—Case V. continued. On leaving the Hospital, rode to Springfield, travelling all day. Passed urine once without difficulty, and on endeavoring to again, found herself unable to do so. Was in great pain all night, and since that time has had constant passage of urine into vagina. Still much comes through urethra. Has attacks of severe burning pain, which she describes as being as severe as if fire were applied to the part.

20th. Evening.—In great pain. R. Pulv. opii, gr. ij., and repeat gr. j. every half hour till relieved.

22d.—Much pain last night ; relieved in morning by enema of laudanum, gtts. lxx. ; starch, ʒ iv. M.

23d.—On examination, Surgeon finds a small opening at the upper part of cicatrix, large enough to admit end of catheter, through which urine trickles down over the cicatrix, which last is covered with fungous granulations. Several ounces of urine in bladder.

Is directed to wear a gum-elastic catheter, and touch granulations with sol. argent. nitrat., grs. viij. ad ʒ j.

26th.—Much less irritation and pain.

27th.—Last night was taken with violent pains, resembling those of labor, attributed by patient to recurrence of catamenial period. Catamenia have been irregular since leaving the Hospital; has had them but once. Great tenderness of abdomen. Had poppy fomentations without relief. Then tr. opii, gtts. lxxx. which was vomited. Four leeches to hypogast. This morning is more quiet, having taken about gtts. lx. tr. opii, not rejected.

28th.—Pain returned about noon. Had morph. sulphat., gr. ss., and at night gr. ¼. Pain this morning much less.

March 3d.—Seems quite comfortable.

9th.—Examined yesterday. A small opening discovered in centre of old cicatrix. Is directed to wear a large catheter.

10th.—Catheter caused much irritation, and was removed this morning by patient.

12th.—Resume catheter.

17th.—Continues about the same. Yesterday morning, while writing, had an attack of faintness, obliging her to lie down.

18th.—Much pain last night. Had enema of tr. opii, gtts. lxxx.; aquæ, ʒ iv. M., with considerable relief.

23d.—Was to have been operated on to-day. Operation deferred on account of soreness of parts, and some incrustations about fistulous opening. Apply to incrustations twice daily, sol. argent. nitrat., grs. viij. ad ʒ j.

25th.—In considerable pain for two or three days back; easier this morning; wears catheter constantly.

April 10th.—On account of irritable state of bladder, has used for a few days, as an injection into that viscus, aq. sol. opii, grs. viij. ad ʒ j., and experienced great relief from same, being almost entirely free from pain.

15th.—Much the same. Discharged, not relieved.

On leaving the Hospital she continued under my care, and between the 25th of April and the 15th of August following, I operated on the fistula four times, gaining something at each operation, till at length it

was so much reduced in size, that she recovered not only the power of retaining the urine, but also to some extent the power of expelling it at will.

She returned home, and I have learnt within the last year that her health is good, that she suffers but little from this infirmity, and has given birth to a living and healthy child.

I ought, perhaps, to have remarked that this patient was more difficult to manage, both during the operation and after, than any one that had ever been under my care. This may account in some degree for the want of entire success in her case.

Case VI.—At the Hospital.

June 11th, 1845.—C. D., æt. 29, married. Canterbury, N. H. Patient was confined with her first child three months ago. Reports that the "bag of waters broke" early one morning, without any previous pain. This was Monday. The following Thursday, bearing-down pains commenced and continued pretty regularly till Saturday night, when the child was delivered with the forceps. Motions of the child were felt during the night previous to its extraction, though dead when removed.

Had no passage of urine for thirty-six hours previous to introduction of forceps. About one hour afterwards, urine came dribbling away from vagina in a slow steady stream, and has so continued ever since. Irritation and scalding have been very severe.

Bowels pretty regular. Appetite good.

On examination by Dr. H., a small transverse fissure was found on vaginal surface of bladder, about two inches within vagina. A catheter introduced into bladder was brought through this opening. Surrounding parts were not in a condition for an operation, and it was deferred till

July 5th.—Patient being placed on the edge of a bed, in lithotomy position, a whalebone bougie was introduced into bladder and pressed against os pubis in order to bring forward the seat of the opening. This being well brought forward, though causing considerable pain, two wooden spatulæ were introduced into opposite sides of vagina. The operator then passed two needles curved at the point, and also capable of being removed, and completely closed the opening, the edges of fistula having been previously pared. A catheter was then introduced, and patient placed on her side in bed.

6th.—Very comfortable since operation. All urine has passed through catheter.

19th.—General health improving. Urine all seemed to pass readily through catheter till four days after the operation, when catheter became

obstructed with mucus and blood. It was removed, and another substituted.

Ligatures came away on the seventh day. Catheter was removed two or three days after, and patient was able to retain her urine for nearly two hours. After this period it passed through the opening, which is much smaller than before the operation. Discharged, relieved.

Case VII.—This case occurred also in the year 1845. The patient was a married woman, about 30 years of age, residing more than 100 miles from the city. She had suffered ever since the birth of her last child from this infirmity, and had been treated for a supposed incontinence of urine. The real nature of the difficulty was not suspected till a short time before I saw her.

She then became anxious to ascertain if something could not be done for her relief, and with this view I was consulted. Most of the urine escaped through the fissure; it could be retained for a short time only when she was in an upright position; she had but little control over the bladder, and her sufferings were very great, unless she kept entirely at rest, from the excoriation and tenderness of the parts.

On examination, I found the case to be such as in my opinion would justify an operation. This was accordingly done. The stitches were allowed to remain till thrown off by the natural means, and the same course of management was adopted as had been pursued in the other cases.

At the end of a fortnight I ascertained that though the fissure was contracted, it was not entirely closed, and some urine continued to flow through it. I then proposed another operation, which was submitted to in about three weeks after. The result was, that the retentive and expulsive power of the bladder was in great measure restored, and the patient returned home in a much more comfortable condition than when she came to the city.

In a little more than a year after this, she visited me again, and I was glad to find that she had been steadily improving since the last operation. By a little care on her part to introduce the catheter occasionally, nearly all the urine flowed by the natural passage. She did not feel the necessity of submitting to any further surgical treatment, nor did any seem to be called for. I have not heard from her since; but it is probable that the fistulous opening has contracted still more, so that she experiences but little if any inconvenience from it.

The two next patients were in the Hospital, and the account of their cases is given below from the records.

Case VIII.—March 4th, 1847.—E. F., æt. 40, married. Patient was in labor with her third child for twenty-two hours; was assisted by a midwife; no instruments were used; child was stillborn. Has had one child since.

On examination by speculum, a fissure, about three fourths of an inch in length, with thickened and indurated edges, is found at fundus of bladder, close to os tincæ.

14th.—*Operation.* Patient having been made insensible by ether, the fundus of bladder was brought downwards and forwards, so that the fissure was exposed at the os externum, by means of a whalebone rod passed through the urethra. The edges were then pared, so that the cut surfaces inclined from without inwards, and when in contact the mucous membrane was corrugated. Two sutures were then taken—not extending through the inner coat of bladder. By this the fissure was completely closed. A large sized catheter was then fastened in the bladder.

Patient states that she suffered no pain from the operation. The parts were greatly relaxed by the ether, so that bladder was brought down with perfect ease.

21st.—On examination this morning fissure was found much contracted, but still admitted a small amount of urine to pass through. Catheter was removed, and an elastic bougie introduced into bladder, when some coagula were found.

April 11th.—Doing well. Slight leakage through fissure, but can retain water several hours. Sutures came away this morning.

P. M.—Reports that whole trouble has returned. Water runs continually through the fissure.

14th.—Operation repeated. Patient was placed in bed, with trunk elevated so that urine may gravitate below fissure.

17th.—Doing well. May sit up. No leakage. Remove catheter, and pass an elastic one every three or four hours.

25th.—Fissure has closed. No leakage. Is troubled with incontinence of urine. Is advised to pass catheter many times daily for a long time.

May 3d.—Discharged, well.

Case IX.—G. H., Rhode Island, aged 22; Dec. 3, 1849. Has been married 3 years. Was delivered of first child eight weeks ago, after a severe labor of 13 hours. Child weighed 11 lbs. Its head was larger than usual. No instruments were used. She passed water perfectly well in the afternoon, just before labor commenced, but not at all during the following night. Two days after this, perceived, for the first time,

that her urine came away continually without her being able to prevent it. This has continued ever since. Now, pulse 80; appetite good; bowels regular. On examination, per vaginam, an oval opening is found, two and three-quarters inch from meatus, of sufficient size to admit tip of little finger. Through this, urine constantly passes into vagina. External labia and upper part of thighs red and tender from the constant discharge.

Dec. 16. *Operation.* Patient being fully etherized, fundus of bladder was brought as near as possible to mouth of vagina by a whalebone bougie passed through meatus, and fistulous opening exposed to view. Edges of fissure were then pared by a long narrow bistoury, and united by two sutures, mucous membrane of bladder not being included. Catheter was placed in bladder.

17th. Some pain in hypogastrium. Last night one dejection.

19th. Very comfortable. No dejection. All the urine flows through catheter. R. Ol. ric., ʒ ii.; suc. lim., ʒ i.

20th. One free dejection.

22d. Can pass water naturally. No leakage.

26th. One ligature came away to-day. The other is still firm. No leakage.

31st. Doing well. Ligature still firm. No dejection. R. Ol. ric., ʒ i.

Jan. 2, 1850. Ligature still remains. No leakage. Can retain urine for an hour without difficulty.

6th. Doing well. No dejection. R. Ol. ricin., ʒ iv.

7th. Two dejections.

9th. Ligature has not come away. No leakage. Can retain urine for one and a half hour, and expel it at pleasure. By request, discharged, well.

This patient, I have ascertained, has remained perfectly well. The remaining ligature came away without trouble.

Though I have extended this paper to somewhat of an unreasonable length, I hope I shall be excused for adding a few words in order to explain, a little more in detail, the mode I have adopted in doing the operation, and of managing the patients afterwards.

Before the discovery of the anæsthetic powers of ether, I found that the most difficult and painful part of the operation consisted in bringing the bladder down to the os externum. It is now done with comparative ease, and without causing the slightest suffering to the patient. I have administered the ether in the three last operations of this kind, and have been able to bring the bladder down, pare the edges of the fistula, introduce the ligatures and the catheter, and restore the bladder to its place, in

twenty minutes; when in all the cases before, in which I did not use it, the same process required an hour, and during the most of that time the patient was suffering severely. Besides, the fistula is sometimes in such a situation, as when it is near the fundus of the bladder, that without this agent, or some similar one, it would be impossible to bring it in view.

The patient being thoroughly etherized, the bladder can be brought down by introducing a large sized bougie (one made of whalebone, highly polished, is to be preferred) into the urethra, to the very fundus of the bladder, and carrying the other end up to the pubis. In this way the fistula is readily brought in sight. Its edges can be pared with the scissors or a knife, though usually both these instruments are required; and this part of the operation is much facilitated by holding the edges by means of a double hook. In all the cases that I have examined, these edges are thick, hard, and usually of a white color. It is not difficult, therefore, to dissect up the outer covering from the mucous coat of the bladder to the distance of two or three lines. The needles are then to be passed through the outer covering only, and as many stitches must be introduced as may be found necessary to bring the edges of the fistula in close contact.

Since my first operation, I have used a short needle with the eye near the point, made to fit on to a long handle. The instrument, when the two parts are together, looks not much unlike a tenaculum, though not so much curved, and considerably broader near the point.

As soon as the needle is passed through one side of the fistula, it is immediately seized by a forceps, the handle is withdrawn, and the needle is then carried through. It is to be then again fitted to the handle, and carried through to the other side in the same way. As many stitches as may be thought necessary to bring the parts into close contact can in this way be taken with great ease. One thread of each stitch is to be cut off; it is convenient to leave the other, as it enables the operator and patient to know when the ligatures have separated from the bladder.

A large sized female catheter is then to be introduced into the bladder, and secured there by means of a T bandage. The patient should be laid on her side, with the upper part of the body somewhat raised, so as to facilitate the flow of water through the catheter. This should be removed at least once in every twenty-four hours, as it is very likely to be obstructed by mucus, coagula of blood, and occasionally calculous concretions. In three days I think it safe to remove it altogether, but then it should be introduced at least once every three hours, for ten or twelve days more, so as to prevent any accumulation of urine in the bladder, and consequent strain on that organ.

The diet should consist entirely of liquid, mucilaginous food; such as an infusion of slippery elm, gum Arabic and water, flax-seed tea, arrow-root, and milk and water. This diet, in my opinion, should be continued till the ligatures come away.

The bowels should be opened by some mild laxative a few hours before the operation; but it is desirable that they should not be moved again till some days after.

I think it best for the patient to use the catheter once or twice a day for several weeks, and at any rate during that time to avoid making any strong efforts to expel the urine by the contraction of the bladder.

It may be proper to add, that I have never had any troublesome hemorrhage from the operation, nor any alarming symptoms after it. In some cases the pain has been severe for two or three days, and once or twice it has run down the limb, apparently in the course of the sciatic nerve. When performed in the way that I have recommended, I believe it to be attended with very little if any danger, as the bladder is not subjected to any considerable degree of violence, nor any part injured to a great extent.

Boston, April, 1851.